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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,242	10/27/2000	Susumu Hizukuri		4962

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EXAMINER

LEWIS, PATRICK T

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 11/05/2002

16

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/674,242

Applicant(s)

HIZUKURI ET AL.

Examiner

Patrick T. Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 July 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Objection/Rejections Set Forth in the Office Action dated February 22, 2002***

1. Claims 1 and 4 are objected to because of the following informalities: the phrase "an extent of" should be changed to more adequately convey applicant's intentions.
2. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "characterized in...the sections of a solution" is unclear.
3. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Gatzi et al. *Helv. Chim. Acta* (1938), 21, 195-205.
4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiweck et al. U.S. Patent 4,816,078 (Schiweck), Weibel U.S. Patent 4,831,127 (Weibel-1), and Weibel U.S. Patent 5,008,254 (Weibel-2).

### ***Response to Amendment***

5. In the amendment filed July 29, 2002, claims 1 and 4-8 were amended. Claims 9-10 were added. An action on the merits of claims 1-10 is contained herein below.
6. In regards to Objections to the claims, applicant's amendments filed July 29, 2002 have been fully considered and have overcome the objections set forth by the examiner in the Office Action dated February 22, 2002.

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7. In regards to the Rejection under 35 U.S.C. 112, second paragraph, applicant's amendments filed July 29, 2002 have been fully considered and have overcome the rejection set forth by the examiner in the Office Action dated February 22, 2002.

8. The Rejection of claim 8 under 35 U.S.C. 102(b) as being anticipated by Gatz et al. *Helv. Chim. Acta* (1938), 21, 195-205, has been maintained for the reasons of record as set forth in the Office Action dated February 22, 2002. Applicant has failed to set forth arguments addressing the Rejection of claim 8 under 35 U.S.C. 102(b).

9. The Rejection of claims 1-6 under 35 U.S.C. 103(a) as being unpatentable over Schiweck et al. U.S. Patent 4,816,078 (Schiweck), Weibel U.S. Patent 4,831,127 (Weibel-1), and Weibel U.S. Patent 5,008,254 (Weibel-2) has been maintained for the reasons of record as set forth in the Office Action dated February 22, 2002.

### ***Response to Arguments***

10. Applicant states, "The Office Action rejected claims 1-7 as anticipated by or obvious from the disclosure of U.S. Patent 8,816,078 to Schiweck, U.S. Patent 4,831,127 to Weibel (Weible-1) and U.S. Patent 5,008,254 to Weibel (Weibel-2)." See page 4 of the Response dated July 29, 2002. Applicant is in error in the summarization of rejections of record. See Sections 6-9 above for clarification of objections/rejections set forth in the Office Action dated February 22, 2002. There are no 102/103 Rejections on record.

11. Applicant's arguments filed July 29, 2002 have been fully considered but they are not persuasive.

In response to applicant's argument that Schiweck does not disclose nor suggest hydrolysis under mild conditions (use of 0.01 to 0.5 N acid solution), the examiner respectfully disagrees as Schiweck teaches a process for the production of crystalline L-arabinose from sugar beet fiber via acid hydrolysis at a temperature of 92 to 97 °C for 70 minutes wherein the sulfuric acid concentration is 0.5 to 2.0% (w/w) (column 2, lines 19-60). As any artisan in the field would be aware of, the sulfuric acid concentration when converted to normality is 0.1 N to 0.4 N. The examiner agrees that the process taught by Schiweck uses "sugar beet pulp" instead of "sugar beet fiber" as claimed by applicant; however, the examiner views this "difference" as a mere difference in terminology. Absent some teaching to the contrary, the examiner views "sugar beet pulp" and "sugar beet fiber" to be equivalent. Furthermore, although sugar beet pulp is the preferred starting material described by Schiweck, Schiweck suggests that other L-araban containing plant material may also be used (Abstract).

In response to applicant's arguments regarding "...Weibel-2 does not disclose the specificity of the acidic hydrolytic characteristics to L-arabinose and the means therefore, which are characteristic features of the present invention. Please note that D-galactose and D-galacturonic acid described in Weibel-2 are unnecessary components to attain the object of the present invention", applicant is reminded that the transitional phrase "characterized" is open-ended and, as such, does not exclude the galactose and D-galacturonic acid described in Weibel-2.

In response to applicant's arguments that Weibel-1 teaches a temperature outside the range claimed by applicant, applicant is reminded that claim 1, which all

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other claims depend, was amended from an acid hydrolysis conditions wherein the acid concentration was 0.01 to 0.05 N to a concentration of 0.01 to 0.5 N. Thus, applicant's arguments are moot since Schiweck teaches a process for the production of crystalline L-arabinose via acid hydrolysis at a temperature of 92 to 97 °C for 70 minutes wherein the sulfuric acid concentration is 0.1 N to 0.4 N.

In response to applicant's arguments that Weibel-1 and Weibel-2 focus of beet pulp pectin and that beet pulp pectin is different from other types of plant pectin such as citrus pectin, the examiner agrees that beet pulp pectin is different from other types of plant pectin such as citrus pectin; however, the instantly claimed invention (including newly added claim 9) is drawn to a process for the manufacture of L-arabinose from a vegetable fiber via mild acid hydrolysis. The phrase "such as...apple fiber" are not seen to add patentable limitation that overcome the art rejections of record as it is unclear whether the terms after the phrase "such as" are intended as limitations to the claimed invention. See Rejections under U.S.C. 112 below.

### ***Priority***

12. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on January 5, 1998. It is noted, however, that applicant has not filed a certified copy of the 137485/98 application as required by 35 U.S.C. 119(b).

***Claim Objections***

13. Applicant is advised that should claim 3 be found allowable, claim 9 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 112***

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15. Claims 3 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3 and 9, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 1, 3, 5, 7, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Schiweck et al. U.S. Patent 4,816,078 (Schiweck).

Schiweck discloses a process for the production of crystalline L-arabinose from sugar beet fiber via acid hydrolysis at a temperature of 92 to 97 °C for 70 minutes wherein the acid concentration is 0.5 to 2.0% (w/w) [0.1 to 0.4 N sulfuric acid] (column 2, lines 19-60). L-Arabinose is nearly extracted completely while other carbohydrates such as galactose, rhamnose, and galacturonic acid remain in oligomeric/polymeric forms [separation into two sections] (column 2, lines 29-32). The solution is then neutralized, filtered to remove any precipitates, and concentrated. The purity of the L-arabinose is 85 to 89% at this point (column 2, lines 38-41). The solution is then concentrated further, cooled to room temperature to crystallize the L-arabinose, and recrystallized from water (column 2, lines 45-60).

### ***Conclusion***

18. Claims 1-10 are pending. Claims 1-10 are rejected. No claim is allowed.

### ***Contacts***

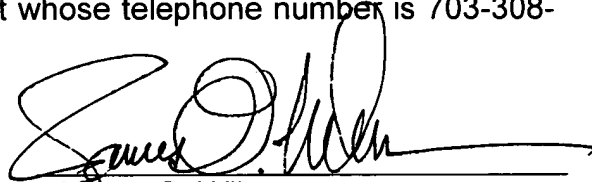
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick T. Lewis whose telephone number is 703-305-4043. The examiner can normally be reached on M-F 8:00 am to 4:00 pm.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 703-308-4624. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Patrick T. Lewis, PhD  
Examiner  
Art Unit 1623



James O. Wilson  
Supervisory Patent Examiner  
Technology Center 1600

ptl  
October 31, 2002